



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,264	08/23/2006	Joseph P. Reilly	2802-118-005	2065
23984	7590	09/02/2009		
JOHN MOLNAR JR. PARKER-HANNIFIN CORPORATION 6035 PARKLAND BOULEVARD CLEVELAND, OH 44124-4141			EXAMINER PRICE, CRAIG JAMES	
			ART UNIT 3753	PAPER NUMBER
			MAIL DATE 09/02/2009	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/598,264

**Applicant(s)**

REILLY ET AL.

**Examiner**

Craig Price

**Art Unit**

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 August 2006.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-21 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 23 August 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date 8/23/2006  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Inventor's Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to because Figures 2 and 3, "26" should be - - 20 - -. Figures 1, 4 and 5 the numeral "100" appears to be pointing to the wrong item and should be pointing at the end of the spool. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

The disclosure is objected to because of the following informalities:

Page 11, line 5, "26" should be - - 20 - -.

Page 11, line 16, the word "sat" is unclear.

Page 11, line 20, "though" should be - - through - -.

Page 13, line 6, "103" should be - - 130 - -.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1, 8 and 15 recite the limitation that "the clutch port pressure feedback passage being formed within the thickness dimension of the cage wall to extend generally axially intermediate a first port in fluid communication with the "control" pressure chamber and a second port in fluid communication with the clutch port of the system", where the "control" pressure seems to be unclear in that it appears that the communication with the feedback chamber. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4,7-11,14-18 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Harms et al. (2002/0092573). Herein after referred to as Harms.

Regarding claims 1 and 8, Harms disclose a proportional pressure control valve (20) for installation within a fluid system, the valve comprising when installed within the system, a cage (42) which extends in an axial direction and in a radial direction and includes a wall (near 42) having an inner surface and an outer surface which define a thickness dimension therebetween, and the wall having formed therethrough a pump port (56) opening in fluid communication with a pump port (84) of the system for receiving fluid under pressure, a clutch port opening (54) in fluid communication with a clutch port (34) of the system for supplying such fluid to an actuator, and a tank port opening (52) in fluid communication with a tank port (32) of the system for returning such fluid to a tank, a spool (112) received within the cage to be moveable axially relative to the cage for controlling fluid flow between the clutch port opening and the pump and tank port openings, the spool having a feedback pressure surface (114) responsive to an applied feedback fluid pressure urging the spool to move axially relative to the cage in a first direction towards a first position allowing fluid flow between the clutch port and the tank port, a feedback pressure chamber (118) defined within the cage for developing the feedback fluid pressure on the feedback pressure surface of the spool, and a clutch port pressure feedback

Art Unit: 3753

passage (126) coupling the clutch port in fluid communication with the feedback pressure chamber for admitting a fluid flow from the clutch port into the feedback pressure chamber to develop the feedback fluid pressure on the feedback pressure surface of the spool, the clutch port pressure feedback passage being formed within the thickness dimension of the cage wall (Para.0100) to extend generally axially intermediate a first port in fluid communication with the "control" (taken as being the feedback chamber) pressure chamber and a second port in fluid communication with the clutch port of the system. Harms further disclose that the spool has a inner and outer surface which define a thickness dimension (at 112, see Figure 2) therebetween, as recited in claim 8.

Regarding claims 2 and 9, Harms disclose that the spool further has a control pressure surface (138) responsive to an applied control fluid pressure urging the spool to move axially relative to the cage in a second direction generally opposite the first direction towards a second position allowing fluid flow between the pump port and the clutch port.

Regarding claims 3 and 10, Harms disclose that the spool further has a supply passage (136) formed therein for receiving a fluid flow from the pump port opening of the cage, and a control pressure chamber (158) is defined within the cage for receiving the fluid flow from the supply passage to develop the control fluid pressure on the control pressure surface of the spool (Para.0058).

Regarding claims 4 and 11, Harms disclose that the control pressure chamber has an outlet passage (162), and wherein the control valve further comprises a pilot valve (228) for controlling fluid flow through the control pressure

Art Unit: 3753

chamber outlet passage to regulate the control fluid pressure developed in the control pressure chamber.

Regarding claims 7 and 14, Harms disclose that the second port is configured as a feedback restriction orifice (as shown in Figure 2, and 9, 128" is a restricted orifice) for restricting the rate at which fluid may flow between the clutch port and the feedback pressure chamber.

Regarding method claims 15-18 and 21, the device shown by Harms will perform the methods as recited in claims 15-18 and 21, during normal operational use of the device.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of

Art Unit: 3753

35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 5,6,12,13, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harms et al. (2002/0092573) in view of Stoss (4,741,364).

Harms is silent to having a first port opens generally radially into the feedback pressure chamber through the inner surface of the cage, and a second port opens generally radially into the system clutch port through the outer surface of the cage.

Stoss discloses a solenoid operated valve with pressure feedback which discloses that the feedback passage (52) within the cage (42) discloses that the two ports open generally radially into respective chambers as shown in Figures 1 and 2.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ port with generally radially openings as taught by Stoss in order to accommodate the connecting ports of the valve.

Regarding method claims 19 and 20, the device shown by Harms in combination with Stoss will perform the methods as recited in claims 19 and 20, during normal operational use of the device.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig Price whose telephone number is



Art Unit: 3753

(571)272-2712. The examiner can normally be reached on 7AM - 5:30PM Mon-Thurs, Increased flex time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on (571) 272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CP

31 August 2009

/C. P./

Examiner, Art Unit 3753

/Robin O. Evans/

Supervisory Patent Examiner, Art Unit 3753